LY01 (ATCC 11303, deposited June 19, 2001) strain, an ethanol-tolerant mutant of the *E. coli* strain KO11. Ideally, these strains may be derived from the *E. coli* strain LY01 (ATCC 11303, deposited June 19, 2001), which is hardy to environmental stresses and can be engineered to be ethanologenic and secrete a polysaccharase/s. In addition, recent PCR investigations have confirmed that the ATCC 11303 strain lacks all genes known to be associated with the pathogenicity of *E. coli* (Kuhnert *et al.*, (1997) *Appl. Environ. Microbiol.* 63:703-709).

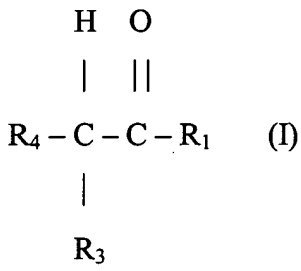
**Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1. (Currently amended) A method for increasing production of alcohol from a saccharide source by an alcohologenic cell comprising,

contacting a saccharide source with an alcohologenic cell, and

exposing said cell to at least one compound of formula I,



(I)

wherein;

$R_1$ is H, ~~OH~~ or $COOR_2$;

$R_2$ is H or alkyl;

$R_3$ is H, $NH_2$, alkyl or alkenyl;

$R_4$ is H, alkyl, alkenyl, or a side chain of a naturally occurring amino acid; and salts thereof;

wherein said exposing results in the increased production of alcohol by the alcohologenic cell as compared to a control.

Claim 2 (Canceled)

Claim 3. (Currently amended) The method of claim 1 ~~or 3~~, wherein said compound of formula I is selected from the group consisting of lower aliphatic aldehydes, lower aliphatic α-keto carboxylic acids, ~~lower aliphatic dicarboxylic acids, amino acids,~~ and salts of any of said acids.

Claim 4. (Original) The method of claim 1, wherein said alcohol is ethanol and said alcohologenic cell is an ethanologenic cell.

Claim 5 (Canceled)

Claim 6. (Currently amended) The method of claim 4 ~~or claim 5~~, wherein said cell is selected from the family Enterobacteriaceae.

Claim 7. (Original) The method of claim 6, wherein said cell is *Escherichia* or *Klebsiella*.

Claim 8. (Original) The method of claim 7, wherein said cell is a recombinant cell.

Claim 9. (Currently amended) The method of claim 8, wherein said cell is selected from the group consisting of *E. coli* KO4 (ATCC 55123), *E. coli* KO11 (ATCC 55124), *E. coli* KO12 (ATCC 55125), *K. oxytoca* M5A1 (ATCC 68564), *K. oxytoca* P2 (ATCC 55307), and *E. coli* LY01 (ATCC 11303).

Claim 10. (Currently amended) The method of claim 4, wherein said compound of formula I is selected from the group consisting of acetaldehyde~~, pyruvate, succinate, isocitrate, glutamate,~~ and α-ketoglutarate~~, casamino acids, and yeast extract~~.

Claim 11. (Original) The method of claim 10, wherein said compound of formula I is acetaldehyde.

Claims 12-17 (Canceled)

Claim 18. (Currently amended) The method of claim 10 ~~or 14~~, wherein said cell is exposed to glutamate and acetaldehyde.

Claim 19. (Currently amended) The method of claim 10 ~~or 14~~, wherein said cell is exposed to pyruvate and acetaldehyde.

Claim 20. (Canceled)

Claim 21. (Currently amended) The method of claim 10 ~~or 14~~, wherein said cell is exposed to α-ketoglutarate and succinate.

Claim 22. (Currently amended) The method of claim 1 ~~or 2~~, further comprising providing said cell in an aqueous solution.

Claim 23. (Currently amended) The method of claim 1 ~~or 2~~, wherein said saccharide source is selected from the group consisting of cellooligosaccharide, lignocellulose, hemicellulose, cellulose, pectin, xylose, glucose, and any combination thereof.

Claim 24. (Currently amended) The method of claim 1 ~~or 2~~, wherein said cell is exposed to said compound of formula I for a period of time between about 1 and about 96 hours.

Claim 25. (Currently amended) The method of claim 1 ~~or 2~~, wherein said method is performed at a pH between about 6 and about 8.

Claim 26. (Original) The method of claim 25, wherein said method is performed at a pH

of about 6.5.

Claim 27. (Currently amended) The method of claim 1 ~~or 2~~, wherein said method is performed at a temperature between about 20° and about 40° C.

Claim 28. (Original) The method of claim 27, wherein said method is performed at a temperature of about 35° C.

Claim 29. (Currently amended) The method of claim 1 ~~or 2~~, wherein said compound is present at a concentration between about 0.1 and about 4.0 g/L.

Claim 30. (Currently amended) The method of claim 1 ~~or 2~~, further comprising exposing said cell to said compound more than once.

Claim 31. (Currently amended) The method of claim 1 ~~or 2~~, further comprising exposing said cell to two or more different compounds of formula I.

Claim 32. (Original) The method of claim 31, wherein said exposing of said cell to said compound is performed at time intervals between about 1 hour and about 24 hours.

Claim 33. (Currently amended) The method of claim 1 ~~or 2~~, further comprising agitating said cell, said saccharide source, and said compound between about 50 rpm and about 200 rpm.

Claim 38. (Currently amended) The method of claim 1 ~~or 2~~, wherein said method is performed in a fermentor vessel.

Claim 39.(Original) The method of claim 38, wherein said cell and said saccharide source are provided in an aqueous solution.

Claim 40. (Original) The method of claim 39, wherein said aqueous solution comprises a fermentation medium.

Claim 41. (Original) The method of claim 40, wherein said fermentation medium comprises Luria broth or CSL broth.

Claim 42. (Currently amended) The method of claim 1 ~~or 2~~, wherein said method is suitable for simultaneous saccharification and fermentation.

Claims 43-55 (Canceled)